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Sir Hans Sloane (1660-1735): his life and legacy.

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SUMMARY

Sir Hans Sloane was born in Killyleagh, Co Down, the seventh and last son of Alexander Sloane. His father, who was of Scottish ancestry, had a long association with James Hamilton, Earl of Clanbrassil who had acquired the castle in Killyleagh and extensive estates in east Down. The Hamilton family took an interest in the education of the Sloane children, and much of the early tuition of Hans was conducted within the library of Killyleagh Castle.

In 1679 he moved to London to study medicine and botany. In 1683, he continued his studies in Paris and Montpellier, and graduated from the University of Orange. On his return to London, he became a protégé of Thomas Sydenham. In 1687 he was appointed physician to the Duke of Albemarle and surgeon to the West Indies fleet. While in Jamaica he added countless specimens to his collections, continuing a lifetime passion. He also invented milk chocolate there. Following the untimely death of the duke, he returned to London and built up a fashionable medical practice.

He married Elizabeth Langley, heiress of a wealthy city alderman, and widow of a sugar planter in Jamaica. They set up house in Great Russell Street. The family home accommodated his burgeoning collections of books, specimens and curiosities. In 1685 he was elected a Fellow of the Royal Society, later becoming the honorary secretary and president. Following his death, his collections were bought for the nation and formed the foundation of the British Museum.

THE LIFE OF SIR HANS SLOANE

The year 2010 is the 350th anniversary of the restoration of King Charles II to the crown in London; the inauguration on 28th November in Oxford of what was to be later known as the Royal Society; and, on 16th April, the birth of Hans Sloane in Killyleagh, Co Down. Sir Hans Sloane Bt was, in the last millennium, one of the British Isles' most influential figures in medicine and the natural sciences. He was the man after whom London streets were named - Sloane Street, Sloane Square and Hans Street. The name "Hans" was fashionable at the time in Scotland, and occurred in Scots Irish settlers. It is probably short for Johannes, as in Germany. He was destined in later years to be closely associated with royalty and with the Royal Society, acting as both secretary and president.

In Killyleagh today stands an ancient castle, owned by the Rowan Hamilton family, and still maintained as a private home. It has been altered extensively by succeeding generations of the family. At first, it was a defensive tower fort, called White Castle. A second tower was added when it was rebuilt following the severe damage inflicted during Cromwell's Irish campaigns. The castle, commanding a strategic position overlooking Strangford Lough, was acquired, with extensive estates in East Down, by James Hamilton as a result of his devotion to King James I's cause.

Fig: Statue of Sir Hans Sloane by John Michael Rysbach in the Chelsea Physic Garden

James Hamilton was the son of the Rev Hans Hamilton, minister of Dunlop, Ayrshire. During the last 20 years of the reign of Elizabeth I, he was a secret agent in Ireland for the future King James. *"His mission was to watch and steer opinion in Ireland against the day when King James might have to exert himself to gain the throne of England"*[1]. He and another Scotsman, James Fullerton set up a Latin school

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in Dublin. On the establishment of Trinity College Dublin in 1592, they were made fellows. On the accession of James VI of Scotland to the throne of England in 1603, they went to London and were knighted by the new King James I of England.

Extensive tracts of land in Ulster that had been previously granted to Viscount Montgomery of the Ards were divided into three. Montgomery kept one third, a third was surrendered to Con O'Neill and Hamilton was granted the remaining third. Relationships between the Montgomerys and the Hamiltons were strained for generations, resulting in skirmishes and worse. Much of the O'Neill land gradually fell into the hands of the Scots settlers. Hamilton, created Viscount Clandeboye, died in 1644, leaving a son and heir, also James, who became the second Viscount Clandeboye and who was also created the first Earl of Clanbrassil. He married Anne Carey, eldest daughter of the Duke of Monmouth, at Rickmansworth in 1641. He died in 1659 and was succeeded by his only son, Henry, the second Earl, who married Alice, a daughter of Henry Moore, the first Earl of Drogheda.

Hans Sloane was born in 1660, in a small house, in Frederick Street, Killyleagh, County Down. The original house stood for several centuries but was demolished in the 1960's to make way for modern homes. A photograph of it is preserved in the collections of the Ulster Museum. The keystone from above the front door seen in the photograph has been preserved in a memorial wall across the road, opposite the site of the Sloane family home.

Alexander Sloane, Hans' father, was the receiver general of taxes for County Down and agent for James Hamilton. Alexander married Sarah Hicks, who came to Killyleagh as Anne Carey's companion, after she had married James Hamilton. Hans was Alexander's seventh and last child. He was probably baptized in the parish church that was built in 1640. The early records are lost. Baptismal and Marriage registers exist only from 1836. Only three of Alexander's sons, James, William and Hans survived to adulthood. In the Killyleagh parish churchyard can be found the gravestones of John and Henry Sloane, two brothers who died in childhood. James, the eldest brother, was elected Member of Parliament for Killyleagh and for Roscommon in 1692. He was later MP for Thetford and as a barrister of the Inner Temple, spent most of his time in London.

Alexander Sloane died when Hans was aged 6. He left his property in trust for his widow and family. In 1671, his widow married John Bailie of Inishargy, which is in the Ards peninsula, near Greyabbey. Sarah had several further children by her second husband. In his childhood, young Hans Sloane showed a keen interest in natural history. He joined the school founded and supported by the Hamiltons in Killyleagh. By his own account, he explored the countryside and shores of County Down. At the age of sixteen, his studies were interrupted by episodes of haemoptysis that persisted for three years. He was largely confined indoors during this illness, receiving his tuition in Killyleagh Castle's extensive library. As a result, he adopted life-long habits of sobriety, temperance and moderation, which, no doubt, helped him survive to the age of 92. When Alexander's widow remarried and moved from Killyleagh to Inishargy, Hans remained with the Hamilton's for his schooling.

There is some suggestion that previous generations of the Sloanes and the Hamiltons were related. The evidence for this is not complete. However there is evidence that after his father's death, the education of the talented youth was encouraged and sponsored by the Hamilton family. William Sloane, born in 1658, did marry Jane Hamilton of Killyleagh, who inherited the Earl of Clanbrassil's estate. William died in Chelsea in 1728. His son William was a trustee to his uncle Hans, and played an important part in the transfer of his collections to the British Museum after the death of Sir Hans Sloane.

At the age of 19, Sloane moved to London to study medicine. He lodged in a house adjoining the Apothecaries' Hall in Water Lane, Blackfriars with Nicholas Staphorst. Sloane was in contact with the botanist John Ray (1627-1705). Ray was elected FRS in 1667 and was a former Fellow of Trinity College Cambridge. His first major work, *Methodus Plantarum Nova*[2], which proposed a new method for classifying plants, was published in 1682. Though there was an age difference of thirty years, the two struck up a lifelong friendship. The pioneering chemist, Robert Boyle (1627-1691) also assisted Sloane. Boyle, who was the seventh son of the Earl of Cork, was friendly with the Hamiltons.

According to a contemporary account by Dr Thomas Birch, secretary of the Royal Society, Sloane *"acquired a perfect knowledge of the preparations and uses of most chemical medicines"*.[3] In those days, botany, Sloane's favourite subject, was considered to be fundamental to the medical curriculum. Sloane frequented the new Physic Garden, recently established in 1673 at Chelsea by the Company of Apothecaries. There was active collaboration with the Physic Garden in Leyden to build up collections of medicinal plants. In the Physic Garden were glass houses and hot houses, heated by hot water pipes to enable the germination of seeds of exotic plants and the propagation of cuttings. Paul Herman, Professor of Botany in Leyden visited Chelsea in 1682 and arranged exchanges of plant material.

In 1683, Sloane went with a friend, Tancred Robinson, and a companion called Wakely to Paris where he continued his studies in medicine and botany, particularly with Tournefort and Magnol (after whom magnolias were named). They later encouraged him to continue his studies at Montpellier, where they had been educated, as had Ray and Boyle. As a protestant, Sloane was debarred by statute from taking degrees at Paris and Montpellier. He took his degree as Doctor of Physic at the University of Orange, near Avignon in Provence, on July 28th 1683. A contemporary account in the Archives of Vaucluse, translated by de Beer, states that Sloane was awarded the highest honours and gives a description of the young man as follows: *"of medium height, hair very short, light chestnut, face rather long and grave, marked with the smallpox"*.[4] This reference to smallpox is pertinent to later experiments carried out by Sloane. He continued his studies in Montpellier until 1684, returning to London via Toulouse, Bordeaux and Paris.

On his return to London, he lodged in Fleet Street. On January 21st 1685, he was elected FRS when Samuel Pepys was President. The two were friends and associates for the rest of Pepys' life. Years later, Sloane attended Pepys during his final illness in 1703, and subsequently performed an

autopsy on him. He continued to be associated with the Royal Society all his active life.

Sloane became a protégé of Thomas Sydenham, the most influential physician of the day in London. In fact, he lodged with him in his home as an assistant. When the older man was indisposed owing to the effects of gout and other infirmities, Sloane would represent Sydenham. From his master, whom some contemporaries called "the English Hippocrates",[5] he learned the value of meticulous clinical observation. On April 12th 1687 he was admitted a Fellow of the Royal College of Physicians.

Later that year, Christopher Monck, the second Duke of Albemarle, was appointed Governor of Jamaica. He charged his London physician to find, for him, a doctor who would accompany him and his family to Jamaica. After careful consideration and consultation with his mentors and friends, Sloane was appointed physician to the Duke, and surgeon to the West Indies fleet. Sydenham was not encouraging. It is recorded that he suggested that Sloane had better drown himself in a pond in St James's Park, rather than embark on the hazardous journey to the West Indies.[6] Ray was more encouraging, suggesting that it was a wonderful opportunity for a young botanist. Perhaps mindful that Thomas Sydenham had introduced Peruvian bark (a rich source of quinine) to London recently, Sloane contemplated adding other new discoveries to the list of medicinal plants commercially available.

In the West Indies he threw himself with enthusiasm into the study of the flora and fauna, and added countless specimens to his rapidly expanding collections of plant and animal material and indeed artifacts of all categories. The appointment as surgeon to the West Indies fleet was prematurely terminated by the death of the Duke. His last medical duty for the dead Duke was to embalm the body for transport to England for burial. While in Jamaica as he searched for new plants that might be introduced as food, his attention was drawn to a drink used by the natives, made from cocoa beans. The Spaniards were already using it. He found it was *"in great quantities, nauseous, and hard of digestion"*.[7] He derived a recipe of mixing the product of the beans with milk and sugar, and so introduced milk chocolate to England. His recipe was later sold to the Cadbury brothers. Milk chocolate would become a highly profitable sideline. Initially it was promoted for its postulated benefits to health.

During his stay in the islands he invested almost all his salary in the purchase of Peruvian bark, which he sold in London at a substantial profit. Peruvian bark first appeared in the London Pharmacopoeia third edition published in 1677. It was highly valued in London as a fever treatment. On Sloane's return to England, his plant collection alone amounted to 800 specimens. His collection of live animals did not survive the passage.

When Sloane returned to London on May 29th 1689, William of Orange was on the throne. For nearly four years he continued in the service of the widowed Duchess of Albemarle. Letters for him were addressed to her house at Clerkenwell and her country house at New Hall in Essex. Through her patronage he built up a fashionable practice. The Duchess was married a second time to the Earl (later Duke) of Montagu. In 1693 letters were addressed to Sloane *"At the Lord Montague's House"*,[8] in Bloomsbury.

In 1694, he became physician to Christ's Hospital and the Foundling Hospital. In 1695, he married Elizabeth Langley, heiress of wealthy city alderman, John Langley and widow of a sugar planter from Jamaica, Fulk Rose. Sloane not only inherited John Langley's entire estate, but also a third of the income from the Jamaican sugar plantations. With his bride he took a house in Great Russell Street, now No 3 Bloomsbury Place - a very fashionable address. They had three daughters and one son. Only two daughters survived childhood

Until ten every morning, Sloane gave the poor of the neighbourhood free advice in his own home and sent them to the dispensary of the College of Physicians in Warwick Lane for their medicines and remedies. This brought him into conflict with the Society of Apothecaries, eventually climaxing in a court case, which the physicians lost.[9]

In 1696, Sloane published a catalogue of the plants of Jamaica.[10] However his major publication, the *Natural History of Jamaica* took many years in preparation. It was published privately at his own expense in two volumes, the first in 1707 and the second in 1725.[11] His own personal copies can be found in the library of the Royal College of Physicians in Regents Park.

By the beginning of the eighteenth century, Sloane's reputation as a physician was such that in 1701, the University of Oxford conferred on him the degree of Doctor of Medicine. In 1705, he was elected to the Royal college of Physicians of Edinburgh. In 1716, Sloane was appointed Physician General to the Army and was created a Baronet by King George I, the first physician ever to receive the hereditary title. Three years later he was elected President of the Royal College of Physicians, a position that he held for sixteen years from 1719 to 1735.

Sloane gained a great reputation for the treatment of eye affections and his only academic medical paper is on this subject. He jealously guarded the formulation until it was published in 1745, when he was 85, and had retired from active practice. It contained *"tutty (zinc oxide), Lapis Haematitis (ferric oxide) prepared pearl and aloes ground in a pestle and mortar with viper's grease or fat to make a linament"*.[12] Zinc oxide is probably beneficial. There are no modern studies on the medicinal properties of viper's grease.[13]

During his Presidency of the College of Physicians, the fourth London Pharmacopoeia appeared. It had been first published over 100 years previously, and during that time little change had been made to its contents. Many of the remedies contained within it were throw-backs to witchcraft and superstition; for example, the wormian bone from an executed criminal's skull was a constituent of some remedies. Sloane and his contemporaries encouraged a more rational approach to prescribing based upon his knowledge of the therapeutic use of plant material.[13]

As secretary to the Royal Society, many learned gentlemen corresponded with him. This correspondence numbering over 500 items can be accessed in the journal of the Royal Society of London, Philosophical Transactions. The records are

varied. Here are two noteworthy examples. It is recorded that he was offered pieces of the Giant's Causeway, but the writer found he already had some examples in his possession.[14] There is also an interesting reference to beans from the Caribbean having been found on the shores of Scottish islands. Sloane recognized the beans were identical to fruits that he had seen on trees in Jamaica, and concluded that they must have been carried across the Atlantic by ocean currents.[15]

While secretary to the Royal Society, Sloane had his detractors, in particular John Woodward, professor of Physic at Gresham College, who tried to remove Sloane from the secretary's post at the Royal Society, preferring his friend Dr John Harris. Woodward was himself ejected from the Council, as a result of overplaying his hand.[16]

Throughout his adult life, Sloane added to his collections. He was very particular about classifying plant material, and labeling specimens. In addition to collecting individual items on his own behalf, when the collections of others became available for sale, he would snap them up, being able to outbid competitors. In 1702, he acquired Charlton's Collection, in 1710, Plunket's, in 1711 Hermann's, in 1717 Kaempfer's and in 1718 Petiver's Collection. When Sloane had acquired collections that filled many rooms in his house, he purchased the house next door, Number 4 Bloomsbury Place, to help accommodate them.

He set aside a day in the week for the entertainment of his learned friends. The parties in his house in Great Russell Street were famous. Dinner was served at about five in the afternoon. He restricted himself to one glass of wine. He was a generous host and did not impose such strict limitations on his guests. It appears that his menus drew comment in several ways. Sir Erasmus Phillips is recorded as saying that salmon, champagne and burgundy were never served.[17] After dinner the guests were encouraged to retire to Sloane's museum, accommodated in his home.

Sloane attended Queen Anne on many occasions during her illnesses and was present during her final illness. The circumstances of Queen Anne's death had bearing on the succession. With the accession of George I in 1714, he won the confidence of the Prince of Wales and his wife, later Queen Caroline. One of her daughters, Princess Anne, was attended by Sloane during a smallpox infection. Sloane is recorded as saying, *"The Princess Anne, now Princess of Orange, fell ill with smallpox in such a dangerous way that I feared for her life. The late Queen Caroline, when Princess of Wales, to secure her other children, and for the common good, begged the lives of six condemned criminals, who had not had smallpox, in order to try the experiment of inoculation on them"*.[18] The practice of engrafting with smallpox to ameliorate the naturally occurring disease was current in Turkey.[19, 20] Charles Maitland, physician to the former British Ambassador in Constantinople, introduced the practice to Britain. He inoculated the ambassador's daughter in April 1721, having inoculated his son in Constantinople in 1717. The king agreed to pardon the prisoners if they survived. Sloane attended the inoculation of the prisoners. Maitland declined to perform the operation, but a Dr Terry of Endfield, who had practised in Turkey, obliged.

Inoculations were performed on six condemned criminals in Newgate. They all recovered. One of the inoculated prisoners was then sent to Hertford *"where the disease in the natural way was very endemical and very mortal"*[18] to lie in bed with a person suffering from severe smallpox. This prisoner survived unscathed. A further trial was performed on charity children, recruited in the Parish of St James. Further trials were performed in private families including Sir Hans's own grandchild before inoculating two royal princesses, daughters of Princess Caroline, in April 1722. The contemporary reports recording that Sloane's face was scarred and pitted by the effects of the pox are quoted above. Could this have made him more receptive to the suggestions that he embark on these hazardous experiments?

Sloane succeeded Sir Isaac Newton as the President of the Royal Society, a position that he held from 1727 to 1741. He is the only person ever to have held both this office and the Presidency of the Royal College of Physicians, an accomplishment that is unlikely to be repeated.

In 1712 Sloane bought the Manor of Chelsea from William, Lord Cheyne and spent his retirement years there. The estate included the Chelsea Physic Garden where he had studied botany in his youth. In 1722, Sir Hans entered into agreement with the Company of Apothecaries. For a yearly rent of £5 he conveyed, in perpetuity, the Physic Garden on condition that fifty new plants should be distributed to the Royal Society every year until the number amounted to 2,000. In token of the gratitude the Society of Apothecaries commissioned a statue of Sloane by John Michael Rysbrack of Antwerp, which was erected in the middle of the gardens where a copy can still be found. A further copy has been erected in Killyleagh in recent times.

In 1742, at the age of 82, Sloane retired from medical practice. He moved his household and collections to Chelsea and spent his old age in the Manor House. Towards the end of his life Sir Hans resolved that his collections should be offered for sale to the nation, rather than have them split up after his death. He listed 63 trustees, with three ex officio trustees from the Royal Society. Two of his grandsons were numbered among the trustees. Sloane died on 11th January 1753, after an illness of only three days. He was buried beside the grave of his wife in the corner of the graveyard of the Chelsea Old Church, where the original memorial still exists. In 1753, his catalogue[21] listed around 100,000 objects and curiosities including 5,439 insects and around 23,000 coins and medals, over 12,000 examples of plant material and around 50,000 books. His collections were bought by the nation for the sum of £20,000 and by an Act of Parliament £100,000 (£8,000,000 in today's currency) was to be raised by lottery for the storage and display of the Sloane collection which was to form, along with several other collections, the foundation of the British Museum. Montagu House in Great Russell Street, was purchased for the purpose. This was opened to the public on the 15 January 1759, just six years after the death of Sir Hans. The present building in Great Russell Street, designed by Sir Robert Smirk was built between 1823 and 1852 on the site of Montagu House.

On the foundation of the Natural History Museum in South Kensington, his collections of dried pressed plants were relocated and are still used as reference sources. Many of his books are to be found in the special collections of the

British Library, recently moved from the centre of the British Museum to its splendid new building at St Pancras.

Sloane's influence can thus be found in the British Museum, the Natural History Museum, the British Library, the Royal College of Physicians, the Society of Apothecaries and the Chelsea Physic Garden. That a man of relatively humble origins rose to such prominence is a tribute to his hard work and diligence.

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